

CLAIMS:

1. (Currently Amended) A method of fabricating a molecular electronic device, the method comprising:

fabricating a substrate having a plurality of banks defining wells for the deposition of molecular material; and

depositing into said wells a composition comprising a molecular electronic material dissolved in a solvent, using a droplet deposition technique, to fabricate said device;

wherein a said bank has a face, defining an edge of said well, at an angle to a base of the well of greater than a contact angle of said composition with said bank face; and

wherein a height of a said bank above a said base of a said well is less than $2\mu\text{m}$.

2. (Original) A method as claimed in claim 1 wherein a height of a said bank above a said base of a said well is less than $1\mu\text{m}$.

3. (Original) A method of fabricating a molecular electronic device, the method comprising:

fabricating a substrate having a plurality of banks defining wells for the deposition of molecular material; and

depositing into said wells a composition comprising a molecular electronic material dissolved in a solvent, using a droplet deposition technique, to fabricate said device;

wherein a said bank has a face, defining an edge of said well, at an angle to a base of the well of greater than a contact angle of said composition with said bank face; and

wherein said method further comprises determining a number of droplets to deposit into a said well taking account of a tendency for said dissolved material to be drawn along a said bank face by surface wetting.

4. (Original) A method as claimed in claim 3 further comprising depositing at least one droplet of dissolved molecular electronic material such that on deposition it spreads to touch a said bank face.

5. (Currently Amended) A method as claimed in claim 3 wherein a height of a said bank above a said base of a said wall is less than 2 μ m.

6. (Currently Amended) A method as claimed in claim 1 further comprising lithographically forming said banks from a photoresist.

7. (Currently Amended) A method of fabricating a molecular electronic device, the method comprising:

fabricating a substrate having a plurality of banks defining wells for the deposition of molecular material; and

depositing into said wells a composition comprising a molecular electronic material dissolved in a solvent, using a droplet deposition technique, to fabricate said device;

wherein a said bank has a face, defining an edge of said well, at an angle to a base of the well of greater than a contact angle of said composition with said bank face; and

wherein said method further comprises lithographically forming said banks from photoresist.

8. (Currently Amended) A method as claimed in claim 7 wherein said photoresist comprises a single layer of negative photoresist.

9. (Currently Amended) A method as claimed claim 1 wherein a said bank face angle is at least 40 degrees.

10. (Currently Amended) A method as claimed in claim 1 wherein a said bank face is undercut.

11. (Currently Amended) A method as claimed in claim 1 wherein said depositing step comprises depositing droplets which, on deposition, incompletely fill a said well in a lateral plane of said substrate.

12. (Original) A substrate for a molecular electronic device, the substrate having a plurality of banks defining wells for the deposition of molecular electronic material, wherein a said bank has a face, defining an edge of said well, at an angle to a base of the well of greater than 40 degrees, and wherein said bank is lithographically formed from photoresist.

13. (Currently Amended) A substrate as claimed in claim 12 wherein a height of a said bank above a base of a said well is less than $2\mu\text{m}$.

14. (Currently Amended) A substrate for a molecular electronic device, the substrate having a plurality of banks defining wells for the deposition of molecular electronic material, wherein a said bank has a face, defining an edge of a said well, at an angle to a base of said well, of greater than 30 degrees, and wherein a height of said bank above a said base of said well is less than $2\mu\text{m}$.

15. (Original) A substrate as claimed in claim 14 wherein said bank is lithographically formed from photoresist.

16. (Original) A substrate as claimed in claim 12 wherein said photoresist comprises a single layer of preferably negative photoresist.

17. (Currently Amended) A substrate as claimed in claim 12 wherein a said bank face angle is greater than 40 degrees.

18. (Currently Amended) A substrate as claimed in claim 12 wherein a said bank face angle is undercut.

19. (Currently Amended) A molecular electronic device including the substrate of claim 12.

20. (Currently Amended) A method as claimed in claim 1 wherein said molecular electronic device comprises an organic light emitting diode device.

21. (Original) A method of fabricating a molecular electronic device, the method comprising:

fabricating a substrate having a plurality of banks defining wells for the deposition of molecular material; and

depositing into said wells a composition comprising a molecular electronic material dissolved in a solvent, using a droplet deposition technique, to fabricate said device;

wherein a said bank has a face, defining an edge of said well, at an angle to a base of the well of greater than a contact angle of said composition with said bank face; and

wherein said method further comprises depositing droplets of dissolved molecular electronic material into a said well such that they incompletely cover the base of the well and are spread to cover the base of the well by capillary action.

22. (Original) A method of fabricating a molecular electronic device, the method comprising:

fabricating a substrate having a plurality of banks defining wells for the deposition of molecular material, a said well having a well base area and a well

perimeter, a said bank having a face, defining an edge of a said well, at an angle to a base of the well; and

depositing molecular electronic material into said wells, dissolved in a solvent, using a droplet deposition technique, to fabricate said device;

wherein said bank angle and a ratio of said well perimeter to said well base area are selected such that a droplet deposited on or adjacent a said well edge is spread by wicking along said well edge.

23. (Original) A method as claimed in claim 22 wherein deposition into a corner of a said well occurs by wicking.

24. (New) A method as claimed in claim 1 wherein a height of a said bank above a said base of a said well is less than $1.5\mu\text{m}$

25. (New) A method as claimed in claim 3 wherein a height of a said bank above a said base of a said well is less than $1.5\mu\text{m}$

26. (New) A method as claimed in claim 3 further comprising lithographically forming said banks from a photoresist.

27. (New) A method as claimed claim 3 wherein a said bank face angle is at least 40 degrees.

28. (New) A method as claimed claim 7 wherein a said bank face angle is at least 40 degrees.

29. (New) A method as claimed in claim 3 wherein a said bank face is undercut.

30. (New) A method as claimed in claim 7 wherein a said bank face is undercut.

31. (New) A method as claimed in claim 3 wherein said depositing step comprises depositing droplets which, on deposition, incompletely fill a said well in a lateral plane of said substrate

32. (New) A method as claimed in claim 7 wherein said depositing step comprises depositing droplets which, on deposition, incompletely fill a said well in a lateral plane of said substrate

33. (New) A substrate as claimed in claim 12 wherein a height of a said bank above a base of a said well is less than 1.5 μm .

34. (New) A substrate as claimed in claim 14, wherein a height of a said bank above a said base of a said well is less than 1.5 μm .

35. (Original) A substrate as claimed in claimed in claim 13 wherein said photoresist comprises a single layer of preferably negative photoresist.

36. (Original) A substrate as claimed in claim 15 wherein said photoresist comprises a single layer of preferably negative photoresist.

37. (New) A substrate as claimed in claim 14 wherein a said bank face angle is greater than 40 degrees.

38. (New) A substrate as claimed in claim 14 wherein a said bank face angle is undercut.

39. (New) A molecular electronic device including the substrate of claim 14.

40. (New) A method as claimed in claim 3 wherein said molecular electronic device comprises an organic light emitting diode device.

41. (New) A method as claimed in claim 7 wherein said molecular electronic device comprises an organic light emitting diode device.

42. (New) A substrate as claimed in claim 12 wherein said molecular electronic device comprises an organic light emitting diode device.

43. (New) A method as claimed in claim 14 wherein said molecular electronic device comprises an organic light emitting diode device.

44. (New) A device as claimed in claim 19 wherein said molecular electronic device comprises an organic light emitting diode device.